

✓ SYNOPSIS OF THE HEMIMERIDÆ, A TRIBE OF SCROPHULARIACÆ.

By George Bentham, Esq., F.L.S.

THE genus *Hemimeris* was first established by Thunberg (Nov. Pl. Gen. Pars. 4.) for five Cape plants, characterized chiefly by a rotate corolla, with the "fossula laciniarum nectarifera." It was taken up by Linnæus, on Thunberg's authority, but for a long time the plants themselves appear to have been lost sight of, especially by continental Botanists, and the above-mentioned character misunderstood. Willdenow considered as additional species of *Hemimeris*, two Peruvian plants, heretofore placed in *Celsia* (now in *Alonsoa*, R. et P.), and which have no concavities at the base of the corolla, nor any thing to which the words "fossula nectarifera" could be applied, although he still retained them in the generic character. His example was followed by Persoon, Kunth, and others, some of whom inserted, and others silently omitted the "fossula laciniarum nectarifera," which they could not find in the Peruvian plants. Link and Otto on the other hand, having at length one of the Cape species under cultivation, were struck by these remarkable concavities, and not perceiving that they were the original foundation of Thunberg's character, established a new genus under the name of *Diascia*. This was taken up by Sprengel, who transferred to it all Thunberg's *Hemimerides*, and left to the latter genus neither the character nor any of the species originally contemplated by its author.

In restoring the name of *Hemimeris* to these original species, it has appeared to me, however, adviseable to separate the didynamous from the diandrous ones, as the difference in the stamina is accompanied by a decided diversity in the form of the corolla; and as the name of *Diascia* happens to have been given to a didynamous species, and is more particularly applicable to the form of the corolla in that group, I have so applied it, retaining the diandrous ones alone in *Hemimeris*, that is to

say, the *H. montana* and *sabulosa* of Thunberg, with one new species.

In *Diascia* the concavities of the corolla are often each of them elongated into a spur, which is sometimes remarkably long; but this is a character so little accompanied by any difference in habit, that it is impossible to make use of it to subdivide the genus. The inflorescence, however, serves to establish two groups so natural that one would be tempted to consider them as genera, could any corresponding difference be traced in the floral organs, which is not the case, as far as I can perceive, but nothing is more difficult than to ascertain the form of the corolla in this set of plants from dried specimens.

I propose referring to *Diascia* the *Hemimeris diffusa*, *macrophylla*, and probably *H. unilabiata* of Thunberg, although I have not seen any specimens corresponding exactly with his description of the latter species. The *D. elongata* comes nearest to it, but the corolla cannot be said to be "bicornis," nor are the sepals obtuse, and in the description of both *H. macrophylla* and *unilabiata* there is the expression "Capsula calyce persistente coronata," which I cannot understand, and if correct, would exclude them altogether from the order of Scrophulariaceæ. To *Diascia* I should also, with Sprengel, refer the *Antirrhinum longicorne*, Thunb., easily recognized by its corolla and long capsule (erroneously described as unilocular and one-valved), and I have now added thirteen new species.

The close affinity between Thunberg's *Hemimeris* and the Cape *Antirrhina*, now forming the genus *Nemesia*, had already struck that author when he placed them next to each other, and although subsequent Botanists, having chiefly the *Alonsoa* in view, have almost all removed *Hemimeris* to the neighbourhood of *Celsia*, yet it appears to me more natural to return to the old arrangement, and I have accordingly placed *Nemesia* in the present group. The structure of the sexual organs is the same as in *Diascia*, but the two concavities of the corolla are confluent into one pouch

or spur, sometimes retuse or slightly emarginate at the extremity, and the capsule is remarkably compressed and truncate or emarginate at the top.

The genus was first proposed by Ventenat, (Jard. Malm. t. 41.), for a species which I do not recognize in any of the specimens before me, unless it be a cultivated variety of *N. linearis* of the same author. The latter species is probably the *Antirrhinum capense*, Thunb. Ventenat's third species, *N. chamædrifolia*, or *Antirrhinum macrocarpum*, Ait., is evidently the same also as *Ant. scabrum*, Thunb. Persoon added to the genus the *Ant. bicorne*, Linn., and I now refer to it *Ant. barbatum*, Linn., (*Ant. pinnatum*, Linn.), and eighteen new species. *Ant. fruticans*, Thunb., must also be a *Nemesia*, but not any species that I have seen. Of the remaining Cape *Antirrhina* of authors, the *A. aphyllum*, Linn., is evidently an *Utricularia*; *A. patens*, Thunb., "floribus terminalibus solitariis," is very doubtful, most probably not a *Nemesia*. So also the *A. dentatum*, Poir., with alternate leaves, and coming from a country far removed from the range of *Nemesia*, as at present known.

Two low creeping plants, the one from the eastern districts of the Cape Colony, the other from Madagascar, with the habit of the section *Cymbalaria* of *Linaria*, the corolla nearly that of *Nemesia* or *Linaria*, but with a capsule different from either, have induced me to propose under the name of *Diclis*, a new genus intermediate between the two last-named. The capsule, however, being two-valved (whence the name), indicates a greater affinity to *Nemesia*, and places it in the tribe of *Hemimerideæ*.

Having thus traced the connecting chain between *Hemimeris* and the *Antirrhineæ*, through *Diascia*, *Nemesia*, and *Diclis*, we may in the same manner connect it with *Alonsoa* and other rotate *Verbasceæ*, through another South American genus, which has the remarkable concavities of the corolla above referred to, besides a habit in some instances very nearly that of the racemose *Diasciæ*. This is the *Ange-*

lonia, Humb. et Bonpl. Pl. Æquin. 2. 92, which agrees with the old character of *Hemimeris*, although it be, in fact, distinguished as well by some differences in the form of the corolla, as by the capsule, which is loculicidal with entire valves, instead of being septicidal with bifid valves. The genus now contains four already described species and one new one, besides the *A. campestris*, which has been considered by Nees von Esenbeck as a separate genus under the name of *Thylacantha*, on account of its indehiscent fruit. The materials before me are not sufficient to enable me to form myself any opinion on the validity of this division.

The whole of the above genera may be considered as forming a small tribe, allied to *Antirrhineæ* on the one hand, and to *Verbasceæ* on the other. They are distinguished from the former by the valvular dehiscence of the capsule, and in many cases by the double spur, pouch, or protuberance, which is in *Antirrhineæ* always simple, and from *Verbasceæ* and all other *Scrophulariaceæ* by the presence of the spur, pouch, or protuberance, whether simple or double.¹

I now proceed to give the characters of the genera and species, beginning with that of the whole tribe.

HEMIMERIDEÆ.

Calyx 5-fidus vel 5-sepalus. *Corolla* tubo brevissimo, limbo explanato subrotato bilabiato vel personato, late 4—5-lobo basi 1—2-calcarato vel saccato vel bifossulato. *Stylus* simplex, stigmatè parvo subcapitato. *Capsula* bivalvis, valvulis integris bifidis vel bipartitis.

CONSPECTUS OF THE GENERA.

1. THYLACANTHA. Corolla basi saccata. Capsula indehiscens.
2. ANGELONIA. Corolla basi saccata. Capsula loculicide bivalvis.
3. HEMIMERIS. Corolla basi bifossu-

¹ *Collinsia* and some *Digitaleæ* have sometimes a slight protuberance on the upper side of the tube, but very different from those of *Hemimerideæ*, which are always at the base of the limb.

lata. Stamina 2. Capsula subglobosa septicide bivalvis.

4. DIASCIA. Corolla basi bifossulata vel bicalcarata. Stamina 4. Capsula subglobosa vel oblonga, septicide bivalvis.

5. NEMESIA. Corolla basi saccata vel 1-calcarata. Capsula compressa septicide bivalvis.

6. DICLIS. Corolla basi 1-calcarata. Capsula subglobosa loculicide bivalvis.

I. THYLACANTHA. *Nees et Mart.*

Calyx 5-partitus. "Corollæ labium superius brevissime bifidum, inferius trifidum, basi deorsum ampliatur in ventrem seu saccum obliquum patentem mediaque circumscriptio emarginatum, cui labium inferius trifidum incumbit." (*Nees et Mart.*) *Stamina* 4, didynama. *Antheræ* biloculares, loculis distinctis divaricatis. *Capsula* globosa, evalvis, subresinosa.

1. *T. campestris* (*Nees et Mart. Nov. Act. Acad. Nat. Cur. 11. 43.*)—Herba erecta, caule tetragono subpiloso. Folia opposita, ovato-oblonga, apice serrata. Flores axillares, solitarii, pedunculati.

HAB. Brazil, *Martius. (v. s.)*

II. ANGELONIA, *Humb. et Bonpl.*

Physidium, *Schrad. in Gott. Gel. Anz. 1821. p. 714.*

Schelveria, *Nees et Mart. Bot. Zeit. 1821. 1. 299. et 328.*

Calyx 5-fidus vel 5-partitus. *Corolla* et *Stamina* Thylacanthæ. *Capsula* globosa, bivalvis, valvulis integris medio septiferis. *Semina* membrana laxa inclusa. *Herbæ Austro-Americanæ, erectæ vel procumbentes.* Folia opposita vel superiora alterna. Pedunculi uniflori, solitarii, axillares vel racemosi.

1. *A. pubescens*, procumbens, molliter pubescens, caule tereti, foliis petiolatis ovatis acutis remote dentatis cujusque paris subæqualibus, floribus axillaribus.

HAB. Tropical Brazil, *Swainson. (v. s.)*

Leaves about an inch long, scarcely opposite. Pedicels short and slender. Flowers larger than in *A. procumbens*, smaller than in the other species.

2. *A. procumbens* (*Nees et Mart. Nov. Act. Acad. Nat. Cur. 11. 44.*) procumbens,

subglabra, caule angulato, foliis subsessilibus ovali-oblongis acutis serratis cujusque paris valde inæqualibus, floribus axillaribus.

Physidium procumbens, *Schrad. l. c.*

Schelveria arguta, *Nees et Mart. Bot. Zeit. l. c.*

HAB. Brazil, *Martius. (v. s.)*

Larger leaves of each pair about half to three quarters of an inch long, the opposite ones not half the size. Peduncles very short. Calyx with a few long stiff hairs.

3. *A. salicariæfolia* (*Humb. et Bonpl. Pl. Æquin. 2. 92. t. 108.*) erecta, pubescens, foliis lanceolatis subserratis floralibus infimis subconformibus plerisque ovato-lanceolatis dentatis pedunculos subæquantibus, floribus racemosis.

HAB. Caraccas, *Humboldt and Bonpland; Trinidad, Herb. Hooker. (v. s.)*

4. *A. hirta* (*Cham. in Linnæa 8. 27.*) erecta, pilis sparsis hirta, foliis lanceolatis serratis floralibus plerisque late cordatis abrupte acuminatis subintegerrimis pedicello brevioribus, floribus racemosis.

HAB. Brazil *Sello*, near Bahia, *Salzmann. (v. s.)*

5. *A. integerrima* (*Spreng. Syst. Cur. Post. 235.*) erecta, glaberrima, foliis oblongo-lanceolatis integerrimis, floribus racemosis.

HAB. South Brazil, *Sello; Rio Grande, Tweedie. (v. s.)*

III. HEMIMERIS. *Thunb.*

Calyx 5-sepalus, æstivatione imbricata. *Corollæ* limbus explanatus subbilabiatus quadrifidus lacinia suprema brevissime emarginata infimaque maximis, lateralibus brevissimis latis; fossulæ 2 flavescens glandulosæ (?) ad basin labii superioris; appendices 2, dentiformes, genitalia cingentes, ad latera faucis. *Stamina* 2, antheris unilocularibus. *Capsula* subglobosa, bivalvis, calycem æquans. *Semina* nuda. *Herbæ Austro-Africanæ annuæ, diffusæ vel ramosissimæ.* Folia opposita vel floralia subfasciculata. Pedunculi axillares uniflori, superiores more *Vandelliarum* subfasciculati, post anthesin reflexi. *Corollæ* flavæ.

1. *H. sessilifolia*, pubescens, foliis ovato-oblongis sessilibus vel infimis petiolatis obscure dentatis, pedicellis subfasciculatis, laciniis calycinis tribus ovato-oblongis duabus cordato-ovatis obtusis.

HAB. Zwarteland and Paardeberg in Stellenbosch, *Ecklon*. (v. s.)

2. *H. montana* (Linn. — Thunb. Fl. Cap. 484.), pubescens rarius glabrata, foliis petiolatis ovatis dentatis, pedicellatis superioribus fasciculatis, laciniis calycinis oblongis vel anguste ovatis capsula vix brevioribus.

Hemimeris alsinoides, *Lam. Dict.* 3. 105.

Diascia montana, *Spreng. Syst.* 2. 800.

HAB. Districts of Cape, Stellenbosch, Worcester, and Clanwilliam, *Ecklon, Drège*, and other collections. (v. s.)

A low annual, with something the habit of *Holosteum umbellatum*, and still more that of the smaller East Indian *Vandellia*, but very variable in the degree of hairiness as well as in the size of the flowers.

3. *H. sabulosa* (Linn. — Thunb. Fl. Cap. 485.) glabriuscula, foliis petiolatis oblongis inciso-dentatis pinnatifidisve, pedicellis superioribus subfasciculatis, laciniis calycinis lanceolatis oblongisve capsula subduplo brevioribus.

HAB. Districts of the Cape, Caledon, and Clanwilliam, *Ecklon, Drège*, and other collections. (v. s.)

Near *H. montana*, but certainly distinct.

IV. DIASCIA. *Link et Otto*.

Calyx 5-sepalus, æstivatione imbricata. *Corolla* basi fossulis, saccis, vel calcaribus 2 aucta, limbo explanato vel concavo subbilabiato, labio superiore bifido inferiore trifido lacinia intermedia sæpius emarginata, omnibus latis rotundatis; appendices in fauce nullæ. *Stamina* 4, didynama; filamenta inferiorum basi circumflexa superiora cingentia, sæpe dilatata vel appendiculata; antheræ uniloculares sæpissime coherentes. *Capsula* subglobosa, ovoidea vel oblonga, non compressa, apice obtusa. *Semina* nuda.—Herbæ annuæ vel perennes. *Folia inferiora vel fere omnia opposita*. *Pedicelli fasciculati vel racemosi*.

* BRACHYCARPÆ. *Pedicelli axillares*

vel superiores subfasciculati. *Folia basi angustata*. *Capsula ovoidea vel globosa, valvula altera sæpissime majore*.

1. *D. heterandra*, foliis carnosulis profunde pinnatifidis, laciniis inferiorum ovatis superiorum oblongis, sepalis ovato-oblongis obtusis, corolla bifossulata, staminibus inferioribus elongatis difformibus sterilibus.

HAB. Cape Flats, *Drège*. (v. s.)

2. *D. diffusa*, foliis pinnatifidis subpinnatisectisve, laciniis ovatis latis, sepalis late lanceolatis acutis, corolla bifossulata, filamentis inferioribus medio bifurcatis, lacinia altera antherifera altera membranaceo-dilatata.

Hemimeris diffusa, *Thunb. Fl. Cap.* 485.

Hemimeris peduncularis, *Lam. Dict.* 3. 105.—*Ill. t.* 532. *f.* 3.

HAB. Near Cape Town and Saldanha Bay, *Ecklon*; Witteboom, *Drège*. (v. s.)

Thunberg appears to have confounded two or three species, when he says that the stamina have often a membrane in the middle, instead of always. Linnæus's *Pæderota Bonæ Spei* is probably one of the species of this section, but it is impossible to say which.

3. *D. elongata*, foliis infimis pinnatifidis laciniis ovatis, superioribus pinnatisectis laciniis oblongis linearibusve, sepalis late lanceolatis acutis, corolla bifossulata, filamentis inferioribus medio geniculatis integris membranaceo-dilatatis.

Diascia Bergiana, *Herb. Un. Itin.* n. 233. *β. parviflora*.

HAB. Olifant's river and Brackfontein in Clanwilliam, *Ecklon*; near the Cape, *Sieber* (n. 248.); and several other collections. *β.* Cape Mountains, *Ecklon*; Paarlberg, *Drège*. (v. s.)

4. *D. pachyceras* (E. Meyer, MSS.), foliis pinnatifidis laciniis ovato-triangularibus obtusis, sepalis late subcordato-ovatis acuminatis, corolla basi bisaccata, filamentis inferioribus medio incurvis dilatatis.

HAB. Hol river, *Drège*. (v. s.)

Flowers drooping, larger and less open than in the neighbouring species.

5. *D. runcinata* (E. Meyer, MSS.) foliis runcinato-pinnatifidis vel sinuato-dentatis, laciniis ovatis oblongisve integris dentatisque, sepalis late cordato-dilatatis

subulato-acuminatis, corolla bifossulata, filamentis omnibus subulatis.

HAB. Zilverfontein, in Namaqualand, *Drège*. (v. s.)

Floral leaves few and small. Flowers small.

6. *D. cuneata* (E. Mey. MSS.), foliis infimis runcinato-pinnatifidis, floralibus obovatis oblongisve cuneatis sinuato-dentatis, sepalis late lanceolatis acuminatis, corolla bifossulata, filamentis omnibus subulatis.

HAB. Uitenhage district, on the Zondag river, *Drège*, and on the Zwartkops river, *Ecklon*. (v. s.)

** LEPTOCARPÆ. *Pedicelli axillares vel superiores subfasciculati. Folia basi angustata. Capsula oblonga sublinearis.*

7. *D. Bergiana* (Link et Otto, Ic. Pl. Sel. Hort. Berol.), foliis oblongis sinuato-dentatis basi angustatis, sepalis lanceolatis acuminatis, corolla bifossulata.

HAB. Clanwilliam district, near Micren Kasteel, *Drège*; Olifant's river and Brackfontein, *Ecklon*. (v. s.)

Habit of *D. runcinata*, but capsule slender, four lines long. Sepals narrow, often joined at the base. Corolla small.

8. *D. Thunbergiana* (Spreng. Syst. 2. 800.), foliis oblongis sinuato-dentatis basi angustatis, sepalis lanceolatis acuminatis, corolla longe bicalcarata.

Antirrhinum longicorne, Thunb. Fl. Cap. 483.

Nemesia longicorne, Pers. Syn. 2. 159.

HAB. Clanwilliam district, Wupperthal, *Drège*; Olifant's river and Brackfontein, *Ecklon*; Mosselbancks river, Piquetberg and Ribekkasteel, *Thunberg*. (v. s.)

Habit, leaves, calyx, and capsule so nearly those of *D. Bergiana*, that without the corolla it is difficult to distinguish them. This part is, however, about eight or ten lines broad, and at the base instead of the two slight concavities, there are two curved spurs, nearly an inch in length.

9. *D. tanyceras* (E. Mey. MSS.) foliis pinnatifidis, laciniis ovatis oblongis linearibusque, sepalis basi latissimis apice subulato-acuminatis, corolla longe bicalcarata.

HAB. Modderfontein, in Namaqualand *Drège*. I have it also from Captain Paterson's collection. (v. s.)

Habit and corolla of *D. Thunbergiana*, leaves and calyx different. I have not seen the capsule.

*** RACEMOSÆ. *Racemi elongati minute bracteati. Folia basi sæpius cordata. Capsula oblonga rarius ovoidea.*

10. *D. macrophylla*, foliis petiolatis ovatis subsinuato-dentatis tenuibus, racemis terminalibus elongatis, corollis longe bicalcaratis, filamentis glabris (?)

Hemimeris macrophylla, Thunb. Fl. Cap. 484.

HAB. Between Bockland and Hantom, *Thunberg*. (v. s. in *Herb. Banks. et Linn.*)

A slender annual, six inches to a foot and a half high, and quite glabrous. Leaves few, the lower ones on long petioles. Pedicels six to nine lines long. Corolla larger than in *C. alonsooides*, with spurs about six lines long. Capsules three to four lines long, oblong-linear, slightly curved.

11. *D. parviflora*, foliis breviter petiolatis cordato-ovatis rotundatisve integerrimis dentatisque, racemis terminalibus elongatis multifloris, corollis breviter bisaccatis, filamentis glabris.

HAB. Damp shady places on the Konabs river, in the Ceded Territory, *Ecklon*; mountainous places on the Hex river, *Drège*. (v. s.)

Racemes longer and much more slender than in *D. alonsooides*. Pedicels filiform, nearly half an inch long. Flowers drooping, about a line and a half broad.

12. *D. alonsooides*, foliis petiolatis subcordato-ovatis subsinuato-dentatis tenuibus, racemis terminalibus elongatis multifloris, corollis brevissime bifossulatis, filamentis villosis.

HAB. Sneeuwebergen, *Drège*. (v. s.)

An erect glabrous annual, nine inches to a foot high. Pedicels filiform, at length near an inch long. Bracts very small, cordate. Corolla half an inch broad, with the segments rounded, and nearly equal in size. Capsule three lines long, oblong, tapering towards the end.

13. *D. racemulosa*, ramis tetragonis

subalatis, foliis late cordato-ovatis dentatis, racemulis axillaribus tenuibus, corollis calcaratis, filamentis glabris.

HAB. In the Amaconda country, between Umtata and Umzimcoolu. *Drège*. (v. s.)

Differs in habit from all the other species. Stems branched and leafy in the upper part. Racemes short, slender, and numerous. Pedicels short. Corolla of the size of that of *D. alonsooides*, but with two short very divergent spurs. Like many of the *Diasciæ*, however, it is so difficult to unfold from a dried specimen, that I have been unable to ascertain its precise form.

14. *D. capsularis*, basi ramosa, foliis subsessilibus cordato-ovatis vel ovato-lanceolatis dentatis, racemis terminalibus elongatis, corollis bicalcaratis, capsulis ovoideo-oblongis calyce bis terve longioribus.

HAB. In the hills of Uitenhage and Albany district, at Ado, and various other places, *Ecklon*. (v. s.)

Perennial, a foot high, leafy near the base. Branches sharply quadrangular. Leaves rather thick. Pedicels half an inch to an inch. Bracts very small. Sepals oblong or lanceolate, with a few glandular hairs. Spurs of the corolla conical, straight, about three lines long; limb eight to ten lines broad. Capsule about four lines long.

15. *D. rigescens* (E. Mey. MSS.), caule erecto elato stricto, foliis sessilibus amplexicaulibusve cordato-ovatis dentatis, racemis elongatis terminalibus multifloris, corollis breviter bicalcaratis, capsulis subgloboso-ovatis calycem vix æquantibus.

β. angustifolia.

HAB. On the Katriviersberg and Winterberg, *Ecklon*; on the Katberg, *Drège*; β. in the Amaconda country, between Umzimwoobo and Umzimcoolu, *Drège*. (v. s.)

Stem slightly branched, above two feet high. Leaves larger and more sharply toothed than in *D. capsularis*. Sepals oblong or spathulate, obtuse, with glandular hairs. Spurs of the corolla scarcely two lines long. Filaments glabrous. Capsule coriaceous, scarcely two lines long.

16. *D. denticulata*, decumbens, foliis sessilibus ovato-lanceolatis oblongisve obtusis paucidentatis, racemis terminalibus brevibus subcorymbosis, corollis breviter bicalcaratis.

HAB. In the Amaconda country, between Umtata and Umzimcoolu, *Drège*. (v. s.)

Leaves thick as in the two last species, but smaller and narrower, obscurely toothed. I have not seen the capsule.

17. *D. integerrima* (E. Mey. MSS.), foliis brevissime petiolatis integerrimis, inferioribus ovato-lanceolatis, superioribus lanceolato-linearibus, racemis elongatis terminalibus, corollis bicalcaratis, capsulis oblongis calyce bis terve longioribus.

HAB. Los Tafelberg and Witbergen, *Drège*. (v. s.)

Near *D. capsularis*, but more slender, with the leaves much smaller, and very narrow, and smaller flowers.

V. NEMESIA. Vent.

Calyx 5-sepalus. *Corolla* basi saccata vel calcarata, limbo personato bilabiato, labio superiore 4-fido, inferiore integro vel emarginato, palato convexo. *Stamina* 4-didynama, inferiora longiora, basi circumflexa superiora cingentia; antheræ uniloculares per paria sæpissime cohærentes. *Capsula* compressa, septicido-bivalvis, valvulis navicularibus subcarinatis apice oblique truncatis, latere exteriori acuto vel breviter cornuto, rarius apice rotundatis. *Semina* oblonga, ala membranacea cincta. —Herbæ annuæ, rarius perennes vel suffrutices. Folia opposita. Flores racemosi vel rarius axillares.

* *Corolla* basi saccata.

1. *N. strumosa*, herbacea, erecta, foliis radicalibus oblongo-spathulatis integris, caulinis lanceolatis linearibusve dentatis, racemis brevibus subcorymbosis, corollis amplis basi late saccatis, laciniis late rotundatis.

Antirrhinum strumosum, *Herb. Banks. MSS.*

HAB. Saldanha Bay, in the Cape district, *Ecklon, Drège, &c.* (v. s.)

A foot high, branched at the base.

Leaves few, glabrous as well as the stem. Floral leaves or bracts small. Pedicels at length one to one and a half inch long, hairy as well as the linear sepals. Corolla about an inch in diameter when fully expanded, orange, yellow, or purple, lower lip bearded with long hairs. Capsule ovate, four to six lines long, three to four broad, slightly contracted at the top, valves obliquely truncate by a straight or slightly incurved line, and forming a very broad angle with each other.

2. *N. saccata* (E. Mey. MSS.), herbacea, humilis, basi ramosissima, foliis linearibus integerrimis paucidentatisque, racemis elongatis, corollis parvis basi late saccatis, laciniis rotundatis.

HAB. Sands near Noagas, *Drège*. (v. s.)

Scarcely six inches high, and entirely glabrous. Leaves somewhat fleshy. Pedicels distant, half an inch long. Corolla three to four lines broad, not bearded. Anthers scarcely cohering. Capsule two to two and a half lines long and broad, not narrowed at the end, valves rounded at the extremity, forming a very open angle with each other.

3. *N. lucida*, herbacea, glaberrima, foliis cordato-ovatis grosse dentatis, inferioribus breviter petiolatis, racemis elongatis paucifloris, corollis parvis basi late saccatis laciniis rotundatis.

HAB. Constantia, *Ecklon*. Occurs in several Cape collections. It is Sieber's n. 254. (v. s.)

Stems a foot or a foot and a half high, four-angled, smooth, and shining. Leaves rather more than an inch long. Pedicels distant, an inch long. Capsule six to seven lines long, two broad, not contracted at the top, valves very obliquely truncate, with the outer corner sharp. Corolla of *N. saccata*.

** *Corolla calcarata*. Flores racemosi.

4. *N. barbata*, herbacea, erecta, foliis radicalibus petiolatis ovatis subintegerrimis, caulinis sessilibus ovatis oblongisve dentatis, racemis paucifloris, corollæ labii superioris laciniis brevibus rotundatis, inferiore maximo vix emarginato, calcare brevi conico.

Antirrhinum barbatum, Linn.—*Thunb.* *Fl. Cap.* 482.

HAB. Cape and Stellenbosch districts, also in Clanwilliam, at Olifant's river, and Brackfontein, *Ecklon*. (v. s.)

Nearly a foot high, branched at the base, glabrous, or with a few glandular hairs on the upper part of the stem, the peduncles, and calyx. Corolla variable in size, but readily known by the large broad lower lip retaining a dark colour in the dry state. Lower lip bearded. Capsule ovate, narrowed at the top with two short diverging horns.

5. *N. cheiranthus* (E. Mey. MSS.), erecta, glabra, foliis infimis ovatis petiolatis, superioribus paucis remotis sessilibus oblongis lanceolatis linearibusve, omnibus paucidentatis integerrimisve, corollæ laciniis supremis lanceolatis acutis labio inferiore longioribus, palato villosa, calcare brevi conico.

HAB. Clanwilliam district: between Heerenlogiment and Knakasberg, *Drège*; Olifant's river and Brackfontein, *Ecklon*. (v. s.)

A foot high, not much branched. Calyx and peduncles sometimes bearing a few short hairs. Two upper divisions of the corolla six lines long, lateral ones four lines, spur two lines long, lower lip broad and emarginate. I have not seen the capsule.

6. *N. anisocarpa* (E. Mey. MSS.), erecta, subglabra, foliis infimis petiolatis ovatis, superioribus paucis remotis sessilibus oblongis lanceolatis linearibusve integerrimis dentatisque, corollæ laciniis supremis oblongis obtusis labio inferiore longioribus, palato tenuiter pubescente, calcare brevi recto lineari-conico.

HAB. Micrenkasteel in Clanwilliam, and Zilverfontein in Namaqualand, *Drège*. (v. s.)

Habit, leaves, and calyx of *N. cheiranthus*, from which it chiefly differs by the upper divisions of the corolla much broader and obtuse. In the Zilverfontein specimens they appear still shorter than in the Micrenkasteel ones. In the latter the capsule is four lines long, two and a half broad, the valves contracted at the top, and une-

qual in size at the base. In the other specimens the capsule is not yet formed.

7. *N. versicolor* (E. Mey. MSS.), erecta, subglabra, foliis infimis petiolatis ovatis, superioribus paucis remotis sessilibus oblongis anceolatis linearibusve integerrimis dentatisque, corollæ laciniis 4 superioribus oblongis obtusis inter se æqualibus labio inferiori æquilongis, palato bicalloso pubescente, calcare incurvo apice non dilatato labio inferiori vix æquilongo.

β. *oxyceras*.

HAB. Olifant's river and Brackfontein, in Clanwilliam, *Ecklon*; Zilverfontein, in Namaqualand, *Drège*. β. in Clanwilliam, between Heerenlogiment and Knakasberg, *Drège*. (v. s.)

Habit of the two last. Spur about four lines long. Capsule three lines long and broad, rounded at the base, not contracted at the top, valves rounded at the top with the outer corner pointed. In the variety β. the spur is sharper, and the flowers of a deep yellow. I have not seen the fruit.

8. *N. ligulata* (E. Mey. MSS.), erecta, subglabra, foliis infimis petiolatis ovatis superioribus paucis remotis sessilibus oblongis lanceolatis linearibusve integerrimis dentatisque, corollæ laciniis supremis oblongis lateralibus obovatis labio inferiori subæquilongis, calcare labio inferiore parum longiore apice subfalcato-dilatato.

HAB. Hol river, *Drège*. (v. s.)

Habit of the three last. Raceme pubescent. Flowers rather smaller than those of *N. versicolor*, deep yellow. Spur three lines long.

9. *N. calcarata* (E. Mey. MSS.), erecta, subglabra, foliis infimis petiolatis ovatis superioribus paucis remotis sessilibus oblongis lanceolatis linearibusve dentatis, corollæ laciniis superioribus obovatis (?) inter se et labio inferiori subæquilongis, calcare rectiusculo apice attenuato labio inferiori subduplo longiore.

HAB. Between Hex river and Draai, *Drège*. (v. s.)

Capsule of *N. versicolor*, from which it chiefly differs by the short upper divisions of the corolla, and the spur near six lines long.

10. *N. parviflora*, erecta, subglabra, foliis inferioribus petiolatis ovatis superioribus paucis remotis sessilibus oblongis vix dentatis, corollæ parvæ laciniis superioribus oblongis labio inferiori brevioribus, calcare recto labio superiore subæquilongo, capsulis apice non dilatatis.

HAB. Mountains near the Cape, *Ecklon*. (v. s.)

Stems slender, nearly simple. Racemes loose, with filiform pedicels. Corolla scarcely longer than in *Linaria simplex*, bright yellow, with an apparently purplish spur. Capsule near two lines long and broad.

11. *N. pinnata* (E. Mey. MSS.), erecta, pusilla glabriuscula, foliis remotis linearibus profunde dentatis pinnatifidisve laciniis linearibus, corollæ parvæ labio superiore brevissimo, calcare recto labio superiore longiore inferiore brevior.

Antirrhinum pinnatum, *Linn.!* *Suppl.* 280.

Habit of *N. parviflora*. Flowers of the same size, but with a very short upper lip. Capsule the same.

12. *N. gracilis*, erecta subglabra, foliis inferioribus petiolatis ovatis, superioribus paucis remotis sessilibus oblongis vix dentatis, corollæ parvæ laciniis superioribus oblongis labio inferiore subdimidio brevioribus, calcare recto labio superiore longiore, capsulis basi contractis apice dilatatis subbicornibus.

HAB. Olifant's river and Brackfontein, in Clanwilliam, *Ecklon*. (v. s.)

Very much like *N. parviflora*, but flowers rather larger (about four lines long with the spur), and capsule of the form of that of *N. bicornis*, although much smaller.

13. *N. bicornis* (Pers. Syn. 2. 159.), erecta, pilis sparsis brevibus pubescens vel subglabra, foliis infimis petiolatis ovato-oblongis superioribus paucis remotis sessilibus oblongis lanceolatis linearibusve dentatis, racemis demum ramosis, corollæ laciniis 4 superioribus oblongis obtusis labio inferiore bifido subæquilongis, palato bicalloso villosa, calcare lineari labio inferiore brevior, capsula basi contracta apice dilatata breviter bicorni.

Antirrhinum bicorne, Linn.—Thunb. *Fl. Cap.* 482.

HAB. Very common about the Cape, from whence it is frequently sent, and extends northwards towards Heerenlogiment, in Clanwilliam, *Drège*. (v. s.)

Near *N. versicolor*, but taller, more branched, and more generally pubescent. Leaves always toothed. Readily known when in fruit, by its capsules, which have the shape of two nearly right angled triangles joined together by one of the sides of the right angle, the other side being a curved line, ending in a projecting point. The corolla is about the size of that of *Linaria striata*, and usually streaked in a similar manner, but with a much less prominent palate.

14. *N. affinis*, erecta, subglabra, foliis infimis petiolatis ovatis oblongisve superioribus paucis subsessilibus oblongis lanceolatis linearibusve plerisque dentatis, corollæ laciniis 4 superioribus oblongis obtusis inter se et labio inferiori subæquilongis, palato tenuissime pubescente, calcare subrecto obtuso labio inferiori subæquilongo, capsula ovata submutica.

β. latifolia.

γ. grandiflora.

HAB. Cape and Stellenbosch districts, *Ecklon*; β. Uitenhage and Albany districts, *Ecklon*, *Drège*, &c.; γ. Zwarteland, *Ecklon*; Algoa Bay, *Forbes*. (v. s.)

Nearly allied to *N. versicolor* and *N. bicornis*, with the habit of the former, but differing from both by the form of the capsule, which is longer than it is broad, contracted at the top, with the valves truncate. The variety β. is usually lower and more branched, with a rather longer capsule. The variety γ. has also rather broad leaves.

The eleven preceding species differ chiefly from each other in the form of the corolla and of the capsule, but the former character is often difficult to observe in dried specimens, and the capsules are but too frequently wanting. There are, therefore, many specimens in the Banksian and other Herbaria, as well as in the collections before me, that I am unable to determine with certainty, and it is probable that

amongst them there may still be several new species.

15. *N. cynanchifolia*, ramosissima, diffusa, ramis foliosis pubescentibus, foliis petiolatis ovato-lanceolatis obtusis obscure sinuato-dentatis glabris, corollæ labio superiore trifido lacinia intermedia breviter bifida omnibus obtusissimis labio inferiore vix longioribus, calcare recto labio inferiore parum brevior, palato glabriusculo.

HAB. Rocks of the Sneeuwebergen, *Drège*. (v. s.)

In habit comes near *N. affinis* β, but the leaves are all petiolate, the lower floral ones often similar to those of the stem, the divisions of the corolla broader, the two upper ones connected together beyond the middle. I have not seen the capsule.

16. *N. viscosa* (E. Mey. MSS.), ramosissima, viscoso-pubescentibus, foliis brevissime petiolatis ovato-lanceolatis acutis integerrimis, corollæ laciniis 4 superioribus ovatis obtusissimis labio inferiore vix longioribus, calcare recto labio inferiore brevior, palato glabriusculo.

HAB. At Verleptpraam and on the Gariëp, *Drège*. (v. s.)

A low branching plant, with much of the habit of *N. cynanchifolia*. Sepals lanceolate, very sharp. Corolla smaller than in the last species. Capsule five lines long, three broad, scarcely narrowed at the top, with two very short horns.

17. *N. linearis* (Vent. Jard. Malm. sub. t. 41.), perennis vel suffruticosa, glabra, ramis adscendentibus, foliis lineari-lanceolatis integerrimis pauci-dentatisque, corollæ labiis subæqualibus, superioris laciniis brevibus obtusis, calcare recto labiis brevior, palato villosa, capsulæ valvulis apice rectis.

Antirrhinum capense, Thunb. *Fl. Cap.* 481.

Linaria capensis, Spreng. *Syst.* 2. 796.

HAB. Karroo and Karroid places in the districts of George, Swellendam, Uitenhage, Beaufort, &c., *Ecklon*, *Drège*, and most collections. (v. s.)

The capsule varies in length and breadth, and is either narrowed or straight at the top, but is never two-horned, and the valves are always rounded at the top.

18. *N. fœtens* (Vent. Jard. Malm. t. 41.), "foliis quaternis lineari-lanceolatis acutis subtrinerviis glabris, floribus racemosis terminalibus bracteatis." Vent.

HAB. Cape of Good Hope, *Ventenat.*

19. *N. divergens*, perennis?, glabra, ramis adscendentibus, foliis lineari-lanceolatis integerrimis dentatisve, corollæ labiis subæqualibus superioris laciniis brevibus obtusis, calcare recto labiis brevior, palato villosa, capsulis apice bicornutis.

HAB. Zwartehoogdens in Albany, *Ecklon. (v. s.)*

Habit and corolla of *N. linearis*. Capsules of *N. barbata*.

*** *Corolla calcarata. Flores axillares rarius racemosi foliis floralibus inferioribus caulinis subconformibus.*

20. *N. fruticans*, "foliis oppositis ovatis integris hirtis, caule fruticoso." *Thunb.*

Antirrhinum fruticans, Thunb. Fl. Cap. 483.

HAB. Cape of Good Hope, *Thunberg.*

I have seen nothing which answers to the description of this plant, but from what Thunberg says of the capsule, it is certainly a *Nemesia*.

21. *N. acuminata*, procumbens, glaberrima, lucida, foliis sessilibus cordato-ovatis longe acuminatis argute dentatis, floribus in axillis superioribus vel ad apices ramorum, racemulosis, corollæ labiis subæqualibus, palato pubescente, calcare labiis brevior, capsula apice dilatata acute bicornuta.

Antirrhinum scabridum, Herb. Banks. MSS.

HAB. Cape of Good Hope, *Masson. (v. s. in Herb. Banks.)*

Differs from *N. diffusa* by its larger flowers and leaves, and especially by the capsule, which is nearly that of *N. bicornis*.

22. *N. diffusa*, ramosissima, procumbens, glaberrima, lucida, foliis parvis breviter petiolatis ovatis vel ovato-lanceolatis infimis obtuse superioribus acutissime dentatis, floribus axillaribus vel supremis laxissime subracemosis, corollis parvis, labiis subæqualibus, palato pubescente, calcare brevi recto.

β. rigida.

HAB. Cape, Stellenbosch, and Swellendam districts, *Ecklon, Drège, &c. β.* on the Palmiet river, *Ecklon. (v. s.)*

Habit in some measure that of *Linaria ramosissima*. Branches and pedicels filiform. Corolla nearly that of *N. lucida*, but with a short linear spur. Capsule oblong ovate, narrowed at the base, straight towards the top, the valves obliquely truncate, not rounded. In the var. *β.* the flowers and leaves are rather larger.

23. *N. chamædryfolia* (Vent. Jard. Malm. sub t. 41.), herbacea, foliis subsessilibus ovatis dentatis basi rotundatis subcordatisve, floralibus subconformibus, pedicellis axillaribus, corollæ labii superioris laciniis brevibus rotundatis inferiore integro parum longiore, calcare brevi conico.

Antirrhinum macrocarpum, Ait. Hort. Kew.

Antirrhinum scabrum, Thunb. Fl. Cap. 483.

Linaria scabra, Spreng. Syst. 2. 792.

HAB. On the Table Mountain, *Drège, Ecklon (Herb. Un. Itin. n. 556.); Cayley, &c. (v. s.)*

Whole plant glabrous and drying black. Upper lip of the corolla three lines long, lower one three and a half, not bearded. Sepals oblong, narrowed at both ends, rather shorter than the capsule, which is from three and a half to four lines long and broad, truncate at the top.

24. *N. melissæfolia*, herbacea, glaberrima foliis petiolatis ovatis vel ovato-lanceolatis dentatis incisive, racemis brevibus, foliis floralibus infimis caulinis subconformibus, corollæ labiis subæqualibus calcare lineari corollam æquante.

HAB. Karroo, *Drège*; Fort Beaufort, Philipstown, and Zwartehoogdens, *Ecklon. (v. s.)*

Above a foot high. Branches leafy. Leaves of *N. lucida*, but all stalked. Pedicels long, filiform, often fasciculate. Corolla of *N. lucida*, but with a spur two lines long. Capsule six lines long, four broad, the valve obliquely truncate.

25. *N. pubescens*, herbacea, pubescens vel pilosa, foliis petiolatis ovatis dentatis

floralibus subconformibus, floribus inferioribus axillaribus superioribus subracemosis, corollæ labiis subæqualibus, calcare corolla brevior.

HAB. Graafreynet and Keurebooms river, *Drège*. (v. s.)

Near *N. melissæfolia*, but besides the above characters the capsule is shorter.

VI. DICLIS.

Calyx 5-sepalus. *Corolla* personata, basi calcarata, labio superiore bifido, inferiore trifido. *Stamina* 4, didynama, inferiora longiora basi circumflexa. *Antheræ* uniloculares per paria cohærentes. *Capsula* subglobosa, emarginata, loculicidobivalvis, valvulis integris vel vix fissis. *Semina* pauca ovoidea striata.—Herbæ *Austro-Africanæ*. *Caules* repentes. *Folia* opposita, petiolata, lata, dentata. *Pedicelli* solitarii, axillares, uniflori, ebracteati.

1. *D. reptans*, foliis subrotundis, basi truncatis cordatisve.

HAB. Eastern districts of the Cape Colony, on the Vanstaadensriviersberge and Zuureberge in Uitenhage, the Winterberg in the Neutral Territory, and Katberg in Cafferland, *Ecklon*; in the Amakosa and Amaponda countries, *Drège*. (v. s.)

Stems long, creeping, and often throwing out roots from the knots, and as well as the leaves are usually more or less pubescent, sometimes glabrous, and generally drying black. Leaves an inch broad, or rather more, crenate. Sepals oblong-linear, nearly equal. Corolla including the spur, about seven lines long; lower lip twice as long as the upper one. Capsule covered with glandular hairs, about the length of the calyx, and broader than it is long.

2. *D. ovata*, diffusa, foliis late ovatis basi cuneatis.

HAB. Madagascar. (v. s. in *Herb. Hooker*.)

Flowers half the size of those of *D. reptans*. Capsule nearly glabrous.

LACIS CERATOPHYLLA.

TAB. XX.

GEN. CHAR. Nat. Ord. — PODOSTEMONÆ. *Rich*.

Flores spathacei, partibus appendiciformibus numero indefinitis. *Stamina* indefinita (2—40), hypogyna, libera v. monodelpha. *Stigmata* 2. *Capsula* striata, bilocularis, bivalvis. *Semina* numerosa, receptaculo centrali affixa.—Herbæ humiles aquatiles præcipue tropicæ; scaturigines rivulosque amantes, saxis rupibusve, imo et arboribus radicibus suis adnatæ, plerumque submersæ. *Folia* multipartita, laciniis sæpe angustis.

Lacis ceratophylla; repens, caule filiformi flexuoso, foliis multipartitis laciniis linearibus, floribus axillaribus solitariis, staminibus 2 filamentis monadelphis. (Tab. XX.)

Lacis ceratophylla. *Bongard*, *Gen. Lacis Revis.* p. 10. *Podostemon ceratophyllus*, *Mich. Am.* v. 2. p. 164. t. 44. *Nutt. Gen. Am.* v. 2. p. 202.

HAB. Stony beds of rivers in the southern States of North America; Ohio, near Louisville, *Michaux*; Delaware, about Easton, *T. Collins, Esq.*; Holston, Kenhaway, French Broad, and in the Catawba river, near Morganton, North Carolina, *Nuttall*; Augusta, Georgia, *Dr. Leavenworth*; Brandywine, and various streams about West Chester, Pennsylvania, *Dr. Darlington, Mr. Townsend*; Rapids of the Kentucky river, *Dr. Short*.

Interested as I have long been in the vegetation of North America, I could not but feel desirous of possessing a plant which few Botanists were acquainted with except through the figure and description of Michaux, namely, his *Podostemon ceratophyllus*, the only individual of the Order found in North America; the others being natives of the tropics, and chiefly of Brazil and Guiana. But it was long ere I could obtain a specimen, for its place of growth, attached to stones at the bottoms of rivers, had caused it to be overlooked: nor was it till I applied to my obliging correspondents, Dr. Short, of Kentucky, and Dr. Darlington, of West Chester, that I received any. From those gentlemen I have been